Work Order ID 98189

March-08-13 10:28:10 AM

98189 BLUE

Item ID: D206-667-147TRN **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Crosstube Assembly, Mid Fwd

Start Date: 3/08/13 **Start Qty:** 1.00 *1*

Required Date: 3/29/13 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** MLJ **Date:** 13-03-08 **Tooling:** **Date:**

QC: **Date:** **SPC (Y/N):** **Date:**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
Draw Nbr: D206-667-147 / Revision Nbr: A									
100		0.00							
100	MORI SEIKI CNC LATHE LARGE					1	0		KC
Mori Seiki	**Memo**	0.00							13-B-18
Mori Seiki CNC Lathe Large	1-Fill tube with sand & install plugs DTxxxx on both ends as per Folio FB029 2-Turn first side as per Folio FB029 3-File down transition lines smooth. FOLIO REV: AA DWG REV: A								
110	QC1- Inspect dimensions to dimension sheet	0.00							
110						1	0		KC
QC	**Memo**	0.00							13-B-18
Quality Control									

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐
- ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Work Order ID 98189

March-08-13 10:28:10 AM

98189

Item ID: D206-667-147TRN **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Crosstube Assembly, Mid Fwd

Start Date: 3/08/13 **Start Qty:** 1.00 *1*

Required Date: 3/29/13 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** **Date:** **Tooling:** **Date:**

QC: **Date:** **SPC (Y/N):** **Date:**

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
120		0.00							
120	MORI SEIKI CNC LATHE LARGE					1	ϕ		KC 13-3-18
Mori Seiki	**Memo**	0.00							
Mori Seiki CNC Lathe Large	1-Turn second side as per Folio FB029 2-File down transition lines smooth. 3-Remove sand and plugs FOLIO REV: AA DWG REV: A								
130	QC1- Inspect dimensions to dimension sheet	0.00							
130						1	ϕ		KC 13-3-18
QC	**Memo**	0.00							
Quality Control									
140	QC8- Inspect parts - second check	0.00							
140						JW 13-03-19			
QC	**Memo**	0.00							
Quality Control									

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐
- ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

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- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
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- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

Work Order ID 98189

98189

March-08-13 10:28:10 AM

Item ID: D206-667-147TRN **Accept** *N900040100* **Setup Start** *NS1*

Revision ID: **Stop** *NS2*

Item Name: Crosstube Assembly, Mid Fwd

Start Date: 3/08/13 **Start Qty:** 1.00 *1*

Required Date: 3/29/13 **Req'd Qty:** 1.00 *1*

Reference:

Cust Item ID:

Customer:

Run Start *NR1*

Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
145		0.00							
145						TM	13-03-20		
Crosstubes	**Memo**	0.00							
Crosstubes	GRIND ONLY TRANSITION LINES SMOOTH LONGITUDE WAY.								
150		0.00							
150						MD	13/03/	28	
HandFXtube	**Memo**	0.00							
Hand Finishing Crosstubes	1- PRESSURE WASH X-TUBE INSIDE AND OUT								
	2- ACID ETCH X-TUBE INSIDE AND OUT. USE RED SCOTCH BRITE								
160	QC5- Inspect part completeness to step on W/O	0.00							
160									
QC	**Memo**	0.00							
Quality Control									

DAS 16 3-- 3/04/01

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐
- ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

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- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contarnination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
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- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other _____

Work Order ID 98189

March-08-13 10:28:10 AM

98189

Item ID: D206-667-147TRN
Revision ID:
Item Name: Crosstube Assembly. Mid Fwd

Start Date: 3/08/13 **Start Qty:** 1.00 *1*
Required Date: 3/29/13 **Req'd Qty:** 1.00 *1*
Reference:

Accept *N900040100*

Setup Start *NS1*
Stop *NS2*

Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
170	Packaging	0.00				MO	13/04/01		
170 Packaging Packaging	**Memo** Identify and stock in kanban rack Location: LG	0.00							
180	QC21- Final Inspection - Work Order Release	0.00					13/4/3		
180 QC Quality Control	**Memo**	0.00							

RL13-04-2

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric to O/S
☐ Cracks
☐ Crushed/Crimped
☐ Cuffs
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Ripples in Bend
☐ Torque Waves in Extrusion
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damaged
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drill Holes
☐ Drawing
☐ Finish
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☐ Hardware
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☐ Instructions Incomplete/Unclear
☐ Maintenance
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☐ Misread
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☐ Out of Sequence
☐ Outside Dimensions
☐ Ovalized
☐ Over/Under tolerance
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☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other

Picklist Print

March-08-13 10:28:14 AM

Work Order ID: 98189 *98189*

Parent Item: D206-667-147TRN *D206-667-147TRN*

Parent Item Name: Crosstube Assembly. Mid Fwd

Start Date: 3/08/13 **Required Date:** 3/29/13

Start Qty: 1.00 **Required Qty:** 1.00

Comments: IPP rev:A 11.01.06 new issue DD verf:EC

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D6002-115		Manufactured	No			100	Each	36.0000	1	1			

D6002-115 **

Crosstube Material

Location	Loc Qty	Loc Code	
LG015	36		
69794	15		
75626	8		
75629	13		1 mm.L 13/03/15

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework	☐
Scrap	☐
Use-as-is	☐
Work Order Update	☐

AGAINST DEPARTMENT/PROCESS

Skid-tube	☐	Crosstube	☐	Water Jet	☐	Engineering	☐
Machining	☐	Small Fab	☐	Prod. Eng. Coor.	☐	Quality	☐
Thermoforming	☐	Finishing	☐	Rec/Store/Packaging	☐	Other	☐
Large Fab	☐	Composite	☐	Supplier	☐		☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
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General

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- ☐ Part Lost/Missing
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- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

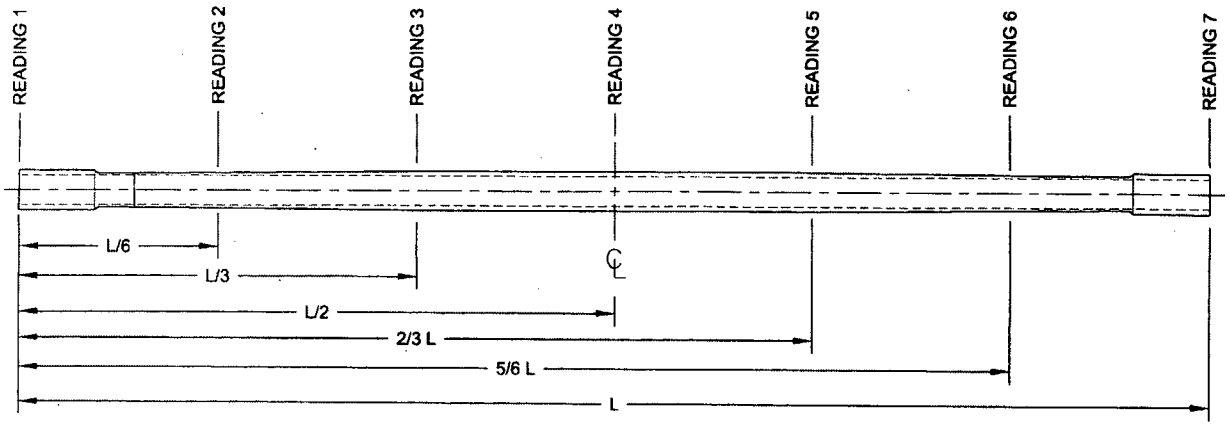
DART AEROSPACE LTD	Work Order:	98189
Description: Crosstube Assembly, Mid Fwd	Part Number:	D206-667-147TRN
Inspection Dwg: D206-667-147 **Rev:** A		Page 1 of 2

FIRST ARTICLE INSPECTION CHECKLIST

	Inspection Sheet Drawing Dimension	Tolerance	Actual Dimension	Accept	Reject	Method of Inspection	Comments
SIDE A	2.240	+0.005/-0.000	2.244	✓		MIC	CNC-04
	1.984	+0.005/-0.000	1.988	✓		VERN	CNC-08
	2.019	+0.005/-0.000	2.022	✓		MIC	CNC-04
	2.058	+0.005/-0.000	2.061	✓			
	2.097	+0.005/-0.000	2.101	✓		↓	↓
	2.136	+0.005/-0.000	2.139	✓			
	2.176	+0.005/-0.000	2.181	✓			
	0.125	+/-0.010	.125	✓		VERN	CNC-08
	R0.063	+/-0.010	.063	✓		RG	—
	R2.00	+/-0.010	—			—	—
	R0.063	+/-0.010	.063	✓		RG	—
	4.438	+/-0.030	4.443	✓		VERN	CNC-08
SIDE B	2.240	+0.005/-0.000	2.241	✓		MIC	CNC-04
	1.984	+0.005/-0.000	1.988	✓		VERN	CNC-08
	2.019	+0.005/-0.000	2.021	✓		MIC	CNC-04
	2.058	+0.005/-0.000	2.061	✓			
	2.097	+0.005/-0.000	2.100	✓		↓	↓
	2.136	+0.005/-0.000	2.138	✓			
	2.176	+0.005/-0.000	2.181	✓			
	0.125	+/-0.010	.125	✓		VERN	CNC-08
	R0.063	+/-0.010	.063	✓		RG	—
	R2.00	+/-0.010	—			—	—
	R0.063	+/-0.010	.063	✓		RG	—
	4.438	+/-0.030	4.454	✓		VERN	CNC-08
	99.84	+/-0.020	99.85	✓		TAPE	LG-15

DART AEROSPACE LTD	Work Order:	98189
Description: Crosstube Assembly, Mid Fwd	Part Number:	D206-667-147TRN
Inspection Dwg: D206-667-147 **Rev:** A		Page 2 of 2

WALL THICKNESS MEASUREMENT



Location	WALL THICKNESS MEASUREMENT (IN)				Deviation Δw (max-min)	TOLERANCE
	w1	w2	w3	w4		
READING 1 L= 0"	.255	.259	.249	.249	.010	
READING 2 L= 16.64	.166	.172	.167	.163	.009	
READING 3 L= 33.28	.252	.254	.246	.247	.008	
READING 4 L= 49.92	.260	.260	.251	.254	.009	0.035"
READING 5 L= 66.56	.251	.257	.246	.249	.006	
READING 6 L= 83.2	.160	.172	.180	.172	.008	
READING 7 L= 99.84	.259	.254	.246	.256	.013	

Calibration Result

Actual Block Thickness: 100-500

Sitescan 250 Measured Thickness: 100-500

Measured by:	KC	Audited by:	JW	Preliminary Approval:	
Date:	13-03-18	Date:	13-03-19	Date:	

Rev	Date	Change	Revised by	Approved
B	11.06.21	New Issue	KJ	
C	12.06.04	Wall thickness form added	KJ	

Item	Qty -147	Part Number	Description
1	X	D206-667-147	CROSSTUBE ASSEMBLY (206L MID FWD)
2	1	D6002-115	CROSSTUBE
3	2	D2873-043	NUT PLATE
4	2	D2873-045	NUT PLATE
5	2	D2891-1	SUPPORT
6	4	D3595-063-395	RUBBER CUSHION
7	4	MS21920-20	CLAMP (OR MS21920-21)
8	14	MS20601AD4W8	RIVET (OR NAS9302B-4-8)
9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

SHOP
RELEASED
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO
WITH
VAULT COPY
NO 98189 MLJ
13-03-08

DEO ATTACHED

ECO #11-615
11.07.28

UNDER REVIEW
11.06.13

RELEASED
2011-05-25

GENERAL NOTES:

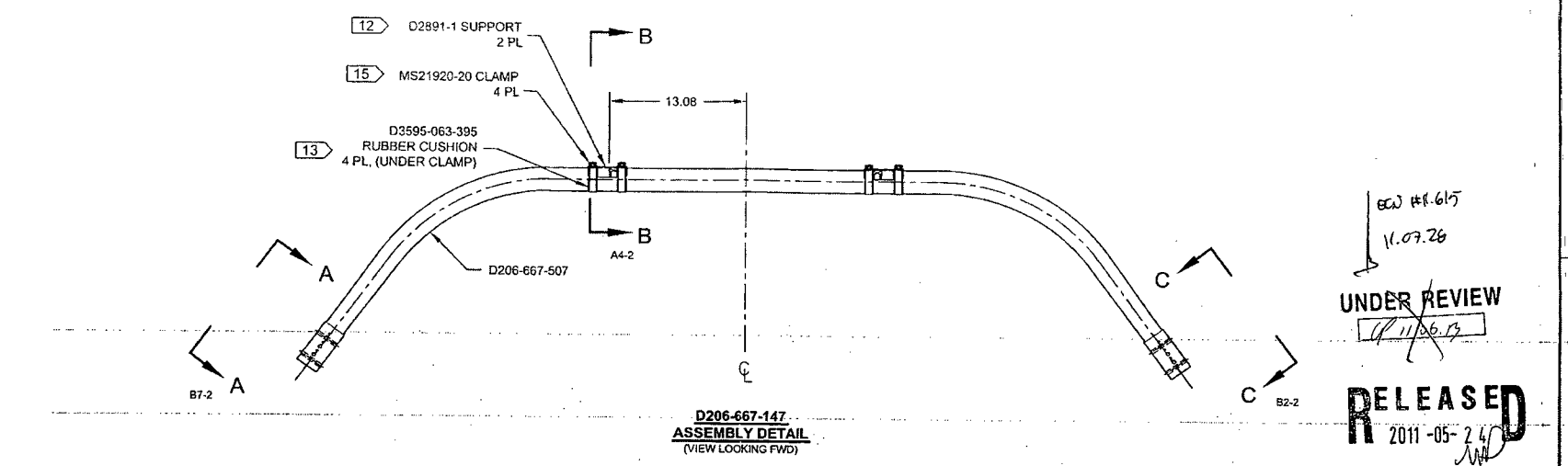
1) MATERIAL: MANUFACTURED FROM D6002-115
 FINISHED LENGTH = 99.84±0.020
2) FINISH: CHEMICAL CONVERSION COAT PER DART QSI 005 4.1
 PRIME INSIDE AND OUTSIDE PER DART QSI 005 4.2
 PAINT OUTSIDE PER DART QSI 005 4.2
3) TOLERANCES ARE PER DART QSI 018 UNLESS OTHERWISE NOTED.
4) UNITS: INCHES UNLESS OTHERWISE NOTED.
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX.
6) IDENTIFICATION: SCRIBE DART PART NUMBER "D206-667-147" AND BATCH NUMBER ON INSIDE OF CUFF PER DART QSI 044 6.4 (VIBRATING STYLUS).
7) WEIGHT: 15.0 lbs (-507 = 12.84)
8) PART IS SYMMETRIC ABOUT CENTERLINE.
9) RUN CUTTER OFF PART WHERE INDICATED. BLEND OUT EDGE LONGITUDINALLY, TRANSITION SHOULD BE SMOOTH.
10) BEND PROGRESSIVELY WITH A MINIMUM OF 10 PASSES. MAXIMUM TUBE FLATTENING DUE TO BENDING IS 6% BASED ON O.D.
11) LIQUID PENETRANT INSPECT OUTSIDE SURFACE OF CROSSTUBE PER QSI 038.
12) INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.
13) INSTALL MS21920-20 CLAMPS (OR -21) WITH D3595-063-395 RUBBER CUSHIONS TO SECURE THE D2891-1 SUPPORT ON TOP SIDE OF THE CROSSTUBE. ENSURE CLAMP MECHANISMS ARE LOCATED ON CROSSTUBE SUPPORTS.
14) EXTREME CARE MUST BE TAKEN TO PROTECT THE OUTSIDE SURFACE OF THE TUBE. THE OUTSIDE SURFACE MUST BE SMOOTH AND FREE FROM SURFACE DEFECTS SUCH AS SCRATCHES, NICKS, OR DENTS. DEFECTS UP TO 0.005" MAY BE BLENDED OUT LONGITUDINALLY. CIRCUMFERENTIAL GRIND MARKS ARE UNACCEPTABLE.
15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS ARE SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

REV.	DESCRIPTION	BY	DATE
A	NEW ISSUE	CP	10.11.23

DESIGN		**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN		
CHECKED		DRAWING NO. REV. A
MFG. APPR.		D206-667-147 SHEET 1 OF 4
APPROVED		TITLE SCALE
DE APPR.		CROSSTUBE ASS'Y (206L MID FWD) NTS
DATE	10.12.23	

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98189



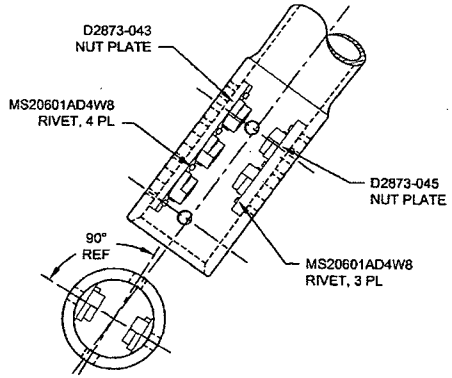
D206-667-147
ASSEMBLY DETAIL
(VIEW LOOKING FWD)

ECN #1.615
11.07.26

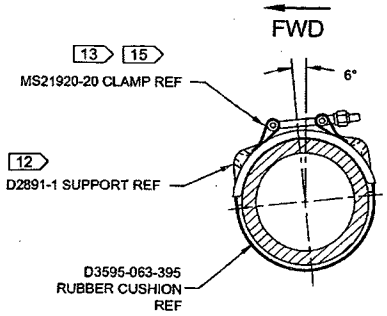
UNDER REVIEW
11.06.13

RELEASED
2011-05-24

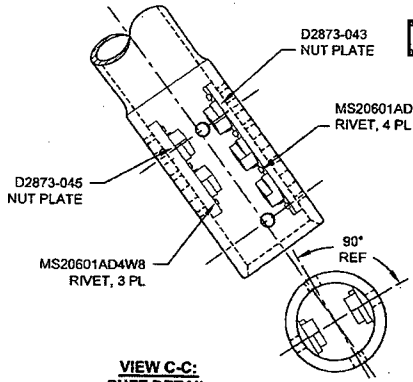
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C7-2 **VIEW A-A: CUFF DETAIL**
SCALE 4X



D5-2 **SECTION B-B**
SCALE 5X

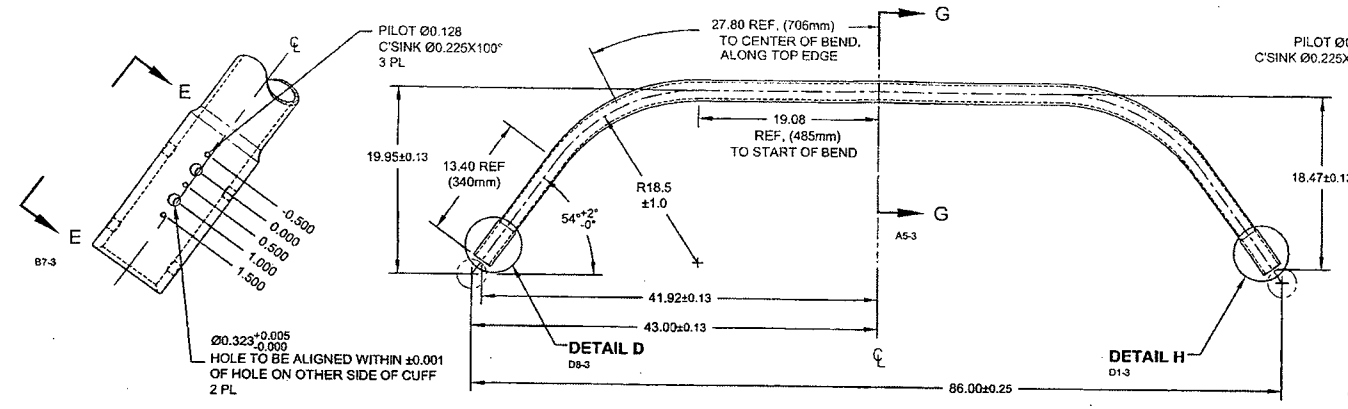


C2-2 **VIEW C-C: CUFF DETAIL**
SCALE 4X

DESIGN		**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA	
DRAWN		DRAWING NO.	REV. A
CHECKED		D206-667-147	SHEET 2 OF 4
MFG. APPR.		TITLE	SCALE
APPROVED		CROSSTUBE ASS'Y (206L MID FWD)	NTS
DE APPR.			
DATE 10.12.23			

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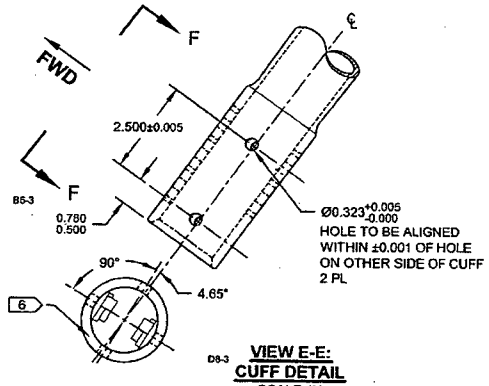
C6-3 **DETAIL D**
SCALE 4X
(VIEW LOOKING FWD)

10 **D206-667-507**
BENDING AND DRILLING DETAIL
(VIEW LOOKING FWD)

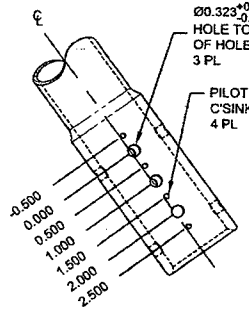
C3-3 **DETAIL H**
SCALE 4X
(VIEW LOOKING FWD)

UNDER REVIEW
Eng #11-615
11.07.28

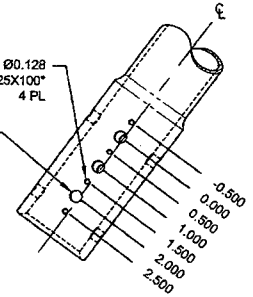
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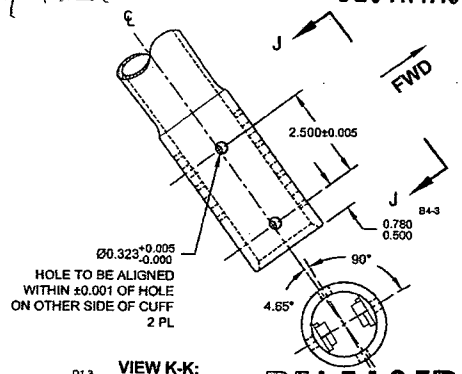
D8-3 **VIEW E-E:**
CUFF DETAIL
SCALE 4X



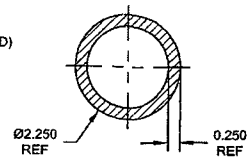
B7-3 **VIEW F-F**
(VIEW LOOKING AFT, ROTATED)



B2-3 **VIEW J-J**
(VIEW LOOKING AFT, ROTATED)



D1-3 **VIEW K-K:**
CUFF DETAIL
SCALE 4X



D4-3 **SECTION G-G**
SCALE 5X

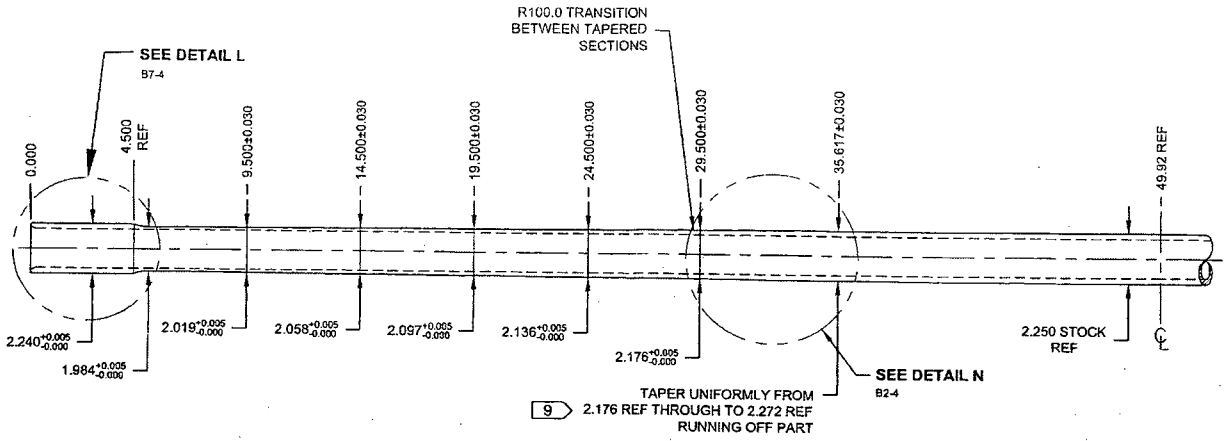
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2011-05-24

DESIGN		**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN		
CHECKED		DRAWING NO. D206-667-147 REV. A
MFG. APPR.		SHEET 3 OF 4
APPROVED		TITLE CROSSTUBE ASS'Y (206L MID FWD) SCALE NTS
DE APPR.		
DATE 10.12.23		

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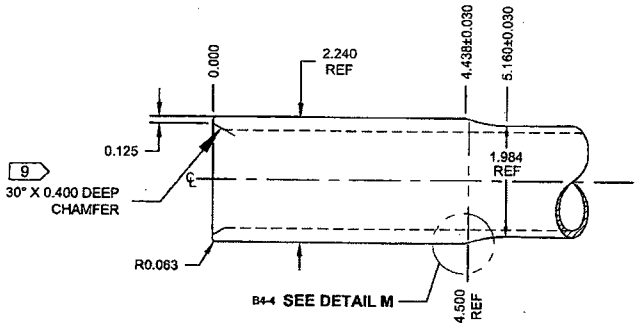
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UNDER REVIEW
11.06.13
ECN # 11-615
11.07.28

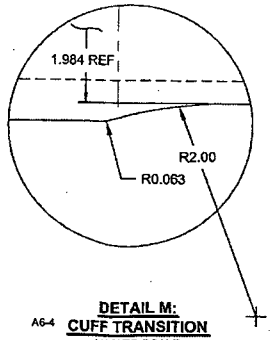


TURNING DETAIL

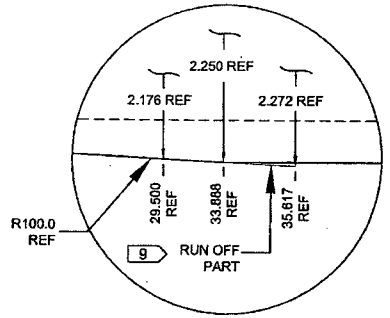
DEO ATTACHED



DETAIL L:
D7-4 **CROSSTUBE CUFF**
NOT TO SCALE



DETAIL M:
A6-4 **CUFF TRANSITION**
NOT TO SCALE



DETAIL N:
C4-4 **TAPER RUN-OFF**
NOT TO SCALE

RELEASED
2011-05-27

DESIGN		**DART AEROSPACE LTD** HAWKESBURY, ONTARIO, CANADA
DRAWN		
CHECKED		DRAWING NO. D206-667-147 REV. A SHEET 4 OF 4
MFG. APPR.		
APPROVED		TITLE CROSSTUBE ASS'Y (206L MID FWD) SCALE NTS
DE APPR.		
DATE 10.12.23		

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DRAWING NO.	TITLE	REV. A	DART AEROSPACE LTD	D.E.O. NO.	SHEET NO.	SCALE
D206-667-147	CROSSTUBE ASS'Y (206L MID FWD)		ENGINEERING ORDER	D206-667-147-A-1	SHEET 1 OF 1	NTS

DRAWN	CHECKED	MFG. APPR.	APPROVED	DE APPR.
DATE 11.07.15	DATE 11.07.20	DATE 11.07.21	DATE 11/07/21	DATE 11.07.21

PURPOSE:
REPLACE MAGNOBOND WITH PROSEAL.

CHANGE:

IS:

Item	Qty -147	Part Number	Description
9	A/R	PROSEAL 890 B-2	SEALANT, AMS-S-8802 CLASS B-2

WAS:

9	A/R	MAGNOBOND 6398	ROCKWELL SPECIFICATION RBO-120-023 ADHESIVE (TEXTRON/BELL SPEC. 299-947-100, TYPE II, CLASS 2 ADHESIVE)

NOTE 12 & 15, SHEET 1 IS AMENDED AS FOLLOWS:

IS:

12) TO INSTALL D2891-1 SUPPORT: ABRADE MATING SURFACE OF SUPPORT AND CROSSTUBE WITH 180-GRIT SANDPAPER AND REMOVE RESIDUE WITH MEK (OR EQUIVALENT). APPLY A 0.04" TO 0.07" THICK LAYER OF PROSEAL 890 CLASS B-2 (OR AMS-S-8802 CLASS B-2) SEALANT TO MATING SURFACE OF SUPPORT.

15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING. **PRIOR TO PACKAGING, RE-CHECK TORQUE ON CLAMPS AFTER PROSEAL 890 SEALANT HAS CURED FOR 72 HOURS.**

WAS:

12) INSTALL D2891-1 SUPPORT USING 0.03" TO 0.06" THICK LAYER OF MAGNOBOND 6398 PER QSI 015. LET CURE FOR 12 HOURS AFTER INSTALLATION AND PRIOR TO PACKAGING.

15) TORQUE CLAMPS 80 TO 100 IN-LB. ENSURE AT LEAST 1.5 THREADS SHOWING IN SAFETY AND THAT NUT HAS NOT BOTTOMED-OUT AFTER TORQUING.

RELEASED 2011-07-28

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DRAWING NO.	TITLE	REV.	DART AEROSPACE LTD ENGINEERING ORDER	D.E.O. NO.	SHEET NO.	SCALE
D206-667-147	CROSSTUBE ASS'Y (206L MID FWD)	A		D206-667-147-A-2	SHEET 1 OF 1	NTS

DRAWN	CHECKED	MFG. APPR.	APPROVED	DE APPR.
AJS				
DATE 12.08.02	DATE 12.08.02	DATE 12.08.02	DATE 12.08.02	DATE 12.08.02

PURPOSE:

ADD ELECTRICAL GROUNDING STRAP

CHANGE:

PARTS LIST:

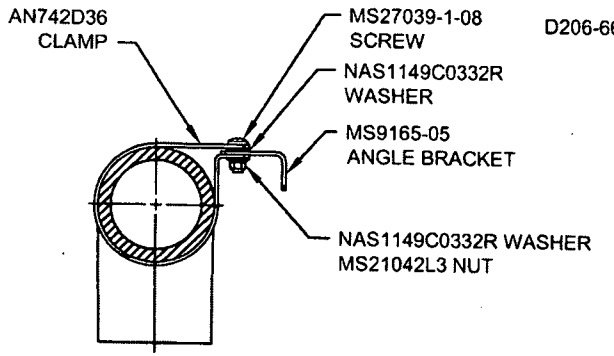
ITEM	QTY -147	PART NUMBER	DESCRIPTION	
1	X	D206-667-147	CROSSTUBE ASSEMBLY (206L MID FWD)	
10	2	AN742D36	CLAMP	ADD
11	2	MS9165-05	ANGLE BRACKET	
12	2	MS21042L3	NUT (OR MS21042-3)	
13	2	MS27039-1-08	SCREW	
14	4	NAS1149C0332R	WASHER (OR AN960C10L)	

GENERAL NOTES:

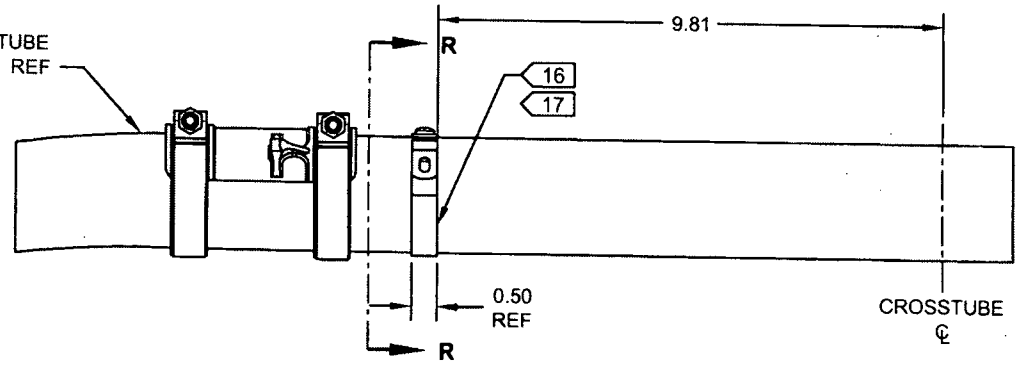
16) MASK AREA UNDER CLAMP PRIOR TO PAINTING
17) SEAL EDGES WHERE AN742D36 CLAMP MEETS WITH THE CROSSTUBE USING SIKAFLEX-241/-291 OR MIL-S-8802 CLASS B2 OR PROSEAL 890 SEALANT
18) PERFORM RESISTANCE CHECK TO ENSURE MAX RESISTANCE IS 10 MILLIOHMS — ADD

→ AFT

RELEASED
12.08.17
ECN 12-451



SECTION R-R



DETAIL P
BONDING STRAP INSTALLATION 2 PL

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